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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,254	04/05/2001	Klaus-Peter Schmoll	1500	4582

7590 05/02/2002
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EXAMINER

CUEVAS, PEDRO J

ART UNIT PAPER NUMBER

2834

DATE MAILED: 05/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,254

Applicant(s)

SCHMOLL ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 March 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,945,770A to Hanafy in view of U.S. Patent no. 5,245,734 to Issartel.

Hanafy clearly teaches the construction of a piezoelectric actuator with:

a multi-layered structure of piezoelectric layers (24, 26, 28) and electrodes (40, 70) disposed between them,

an alternating lateral contact (50, 52) of the electrodes, wherein in the region between two piezoelectric layers, which contains one of the electrodes that are respectively contacted on opposite sides from one another, and

a shape of the multi-layered structure which permits an increased mechanical stress to be exerted for the purpose of providing better electrical match between the ultrasound transducer and the ultrasound system to which it is coupled to.

However, it fails to disclose a neutral phase (7) without an electrode layer.

Issartel teaches the construction of a piezoelectric actuator with a neutral phase without an electrode layer, and an insulating layer (4a) is disposed between of the layers of the multi-layered structure as shown in Figure 1.

It would have been obvious to one skilled in the art at the time the invention was made to use the shape of the multi-layered structure disclosed by Hanafy on the neutral phase piezoelectric actuator disclosed by Issartel for the purpose of providing better electrical match between the ultrasound transducer and the ultrasound system to which it is coupled to.

3. With regards to claim 7, Hanafy in view of Issartel discloses some or all of the features of these claims are combined with one another as shown stated above.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,945,770A to Hanafy in view of U.S. Patent no. 5,245,734 to Issartel as applied to claims 1-4 and 6-8 above, and further in view of common knowledge in the art.

Referring to claim 5, no patentable weight has been given to the method of manufacturing limitations (i. e. grinding), since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Response to Arguments

5. Applicant's arguments filed on March 6, 2002 have been fully considered but they are not persuasive.

6. In response to applicant's argument that "the patent to Hanafy discloses an ultrasound transducer, which however is not an actuator as in the applicant's invention", it must be noted that a transducer is a substance or device, such as a piezoelectric crystal, microphone, or

photoelectric cell, that converts input energy of one form into output energy of another as defined by The American Heritage® Dictionary of the English Language, Third Edition copyright © 1992 by Houghton Mifflin Company. Motion and ultrasounds are two similar kinds of output energy, and more particularly ultrasounds are the result of fast repetitive motion of a piezoelectric device.

7. In response to applicant's argument that "the object of the Hanafy patent does not need any clamping", it must be noted that although not disclosed, the device disclosed by Hanafy requires some type of fixing means or attaching structure or clamping, for secure it on a circuit board or an equivalent structure to obtain the desired response from it.

8. In response to applicant's argument that "the Hanafy patent taken singly does not teach the new features of the claimed invention as defined in the claims", it must be noted that the Hanafy patent was combined with a secondary reference on an obviousness reasoning.

9. In response to applicant's argument that "the Issartel patent discloses only a starting point of the object of the claimed invention and does not teach the new features of the claimed invention as defined in the claims", it must be noted that the Issartel patent was combined with a secondary reference on an obviousness reasoning.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

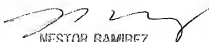
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Néstor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
April 25, 2002


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800